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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/649,324	08/27/2003	David D. Madsen	C34.12-0050	4563

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EXAMINER

PUNNOOSE, ROY M

ART UNIT

PAPER NUMBER

2877

DATE MAILED: 08/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/649,324

Applicant(s)

MADSEN ET AL.

Examiner

Roy M. Punnoose

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 February 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2/04; 4/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character not mentioned in the description: item 230 of Figure 9 is not included in the specification. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement-drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.
2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the limitation that "the flat surface provides a seal against contaminants" must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure

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must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

3. The specification is objected to because the cross-reference information on page 1 of the specification is not updated to include U.S. Patent 6,762,847. Appropriate correction is required.

Double Patenting

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claims 1-12 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-12 of Duquette et al (U.S. Patent No. 6,762,847) in view of Case et al (U.S. Patent 5,897,611).

6. Claim 1 (of the instant application) is rejected because:

- A. Claim 1 of Duquette et al (Duquette hereinafter), U.S. Patent 5,897,611, discloses a sensor system, the machine releasably holding the component and adapted to rotate the component, the sensor system comprising
- a sensor;
- a plurality of light sources in the sensor disposed to illuminate a sensing field in the sensor;
- a detector positioned relative to the light sources so that when the component is at least partially disposed in the sensing field, the component blocks at least some illumination from at least one of the plurality of divergent light sources to form a shadow of at least a portion of the component on the detector, the detector adapted to provide a plurality of detector outputs while the component rotates; and
- computing electronics receiving the detector outputs to compute the placement information for computing placement information about a component in an electronic component handling machine.

However, Duquette does not disclose optics interposed between a sensing field and the plurality of light sources to reduce the divergence of light passing therethrough, in an electronic component handling machine.

- B. Case et al (Case hereinafter) discloses an apparatus comprising optics comprising spherical lens 61, 71 (see Figure 6a, 6b) that has a substantially flat surface disposed proximate the sensing field interposed between a sensing field and a divergent light source 62 to reduce the divergence of light passing therethrough for computing

placement information about a component 30 in an electronic component handling machine.

- C. In view of Case's teaching, it would have been obvious to one of ordinary skills in the art at the time the invention was made to incorporate Case's teaching of the optics interposed between a sensing field and a divergent light sources into Duquette's apparatus to reduce the divergence of light passing therethrough for more efficiently computing placement information about a component in an electronic component handling machine.

Note: It should be noted that Case's teaching is about the *reduction of divergence using optics*, whether it is from a single light source, or, from a plurality of light sources for computing placement information about a component in an electronic component handling machine.

7. Claims 2, 3 and 8 are rejected for reasons listed in paragraph 6 above, and additionally because Case discloses an apparatus comprising optics comprising spherical lens 61, 71 (see Figure 6a, 6b) that has a substantially flat surface disposed proximate the sensing field interposed between a sensing field and a divergent light source 62 to reduce the divergence of light passing therethrough, and wherein the optics 61, 71 substantially collimates light passing therethrough (see Figure 6b) for computing placement information about a component 30 in an electronic component handling machine.

Therefore, in view of Case's teaching, it would have been obvious to one of ordinary skills in the art at the time the invention was made to incorporate Case's teaching of spherical lens that has a substantially flat surface interposed between a sensing field and a divergent light sources into Duquette's apparatus to reduce the divergence and/or collimate light passing

therethrough for more efficiently computing placement information about a component in an electronic component handling machine.

8. Claim 5 is rejected for reasons listed in paragraph 6 above, and additionally, because of Case's disclosure of the use of cylindrical lens (see col.8, lines 60-64) in an apparatus for computing placement information about a component in an electronic component handling machine, it would have been obvious to one of ordinary skills in the art at the time the invention was made to incorporate Case's teaching of the use of cylindrical lens interposed between a sensing field and a divergent light source into Duquette's apparatus to reduce the divergence of light passing therethrough for more efficiently computing placement information about a component in an electronic component handling machine.

9. Claim 6 is rejected for reasons listed in paragraph 8 above, and additionally, since Case discloses the use of spherical lens with substantially flat rear surface (see Figure 6a), and, cylindrical lenses (see col.8, lines 60-64) in an apparatus for computing placement information about a component in an electronic component handling machine, it would have been obvious to one of ordinary skills in the art at the time the invention was made to incorporate Case's teaching of the use of cylindrical lens with substantially flat rear surface interposed between a sensing field and a divergent light source into Duquette's apparatus to reduce the divergence of light passing therethrough for more efficiently computing placement information about a component in an electronic component handling machine.

10. Claims 4 and 7 are rejected for reasons listed in paragraph 9 above, and additionally because case discloses a lens 61 placed to fill a hole in a sensor 45 (see Figure 3) in an electronic component-handling machine. In view of Case's teaching, it would have been obvious to one of ordinary skills in the art at the time the invention was made to incorporate Case's teaching of

placing a lens to fill a hole in a sensor so that it would provide a seal against contaminants into Duquette's apparatus for making the electronic component handling machine more reliable.

11. Claims 9-12 are rejected for reasons listed in the above paragraphs, and additionally because Case teaches the use of the use of ambient light filter (see col.7, lines 58-62) for filtering out all ambient unwanted wavelengths from reaching the detector in an electronic component handling machine. In view of Case's teaching, it would have been obvious to one of ordinary skills in the art at the time the invention was made to incorporate Case's teaching of placing ambient light filter into Duquette's apparatus for filtering out all ambient unwanted wavelengths from reaching the detector for making the electronic component handling machine more accurate.

Note: With regard to claims 10 and 12, it should be noted that Case teaches of the use of an ambient light filter for attenuating/filtering out ambient light in an electronic component handling machine. Case is silent on ambient light incident on the filter from various angles. But, it is common knowledge in the art that an ambient light filter will attenuate light incident at any angle.

Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Roy M. Punnoose** whose telephone number is **571-272-2427**.

The examiner can normally be reached on 9:00 AM - 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Gregory J. Toatley, Jr.** can be reached on **571-272-2059**. The fax phone number for the organization where this application or proceeding is assigned is **703-872-9306**.

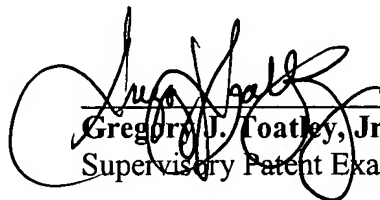
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications

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may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Roy M. Punnoose
Patent Examiner
Art Unit 2877
August 18, 2004





Gregory J. Toatley, Jr.
Supervisory Patent Examiner 2877